supplying an etchant gas to the plasma etch chamber; and

etching openings in the dielectric layer by energizing the etchant gas into a plasma state, the etchant gas comprising a hydrogen-free fluorocarbon gas represented by C_xF_y gas wherein $y/x \leq 1.5$, an oxygen-containing gas and optional carrier gas.

A1 cond

2. (Amended) The method of Claim 1, wherein the openings comprise vias, contacts, and/or trenches of a dual damascene structure, a self-aligned contact structure or self-aligned trench structure.

3. (Amended) The method of Claim 1, wherein the stop layer is silicon nitride and the etch rate selectivity of the dielectric to the silicon nitride is at least 10.

A2

19. (Amended) The method of Claim 1, wherein the etched openings open onto flat and corner portions of the stop layer, the dielectric layer comprises BPSG and the stop layer comprises silicon nitride, the etch rate selectivity of the BPSG to the flat and corner portions of the silicon nitride being at least 15.

A3

21. (New) The method of Claim 1, wherein the etch rate selectivity of the dielectric to the stop layer is greater than 30:1.

22. (New) The method of Claim 1, wherein the etching of the dielectric layer is carried out in a single step.

23. (New) The method of Claim 1, wherein the etchant gas is hydrogen-free.

24. (New) The method of Claim 1, wherein the etchant gas consists essentially of a hydrogen-free fluorocarbon gas represented by C_xF_y gas wherein $y/x \leq 1.5$, an oxygen-containing gas and optional carrier gas.

25. (New) The method of Claim 1, wherein the etchant gas consists of a hydrogen-free fluorocarbon gas represented by C_xF_y gas wherein $y/x \leq 1.5$, an oxygen-containing gas and optional carrier gas.